

Exh. JMK-3

WUTC DOCKET: 190334

EXHIBIT: JMK-3

ADMIT W/D REJECT

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-19 _____

DOCKET NO. UG-19 _____

EXHIBIT JMK-3

JAMES M. KENSOK

REPRESENTING AVISTA CORPORATION

Index for Business Case Justification Narratives Related to Major Technology Capital Additions for 2017 and 2018			
Project #	ER #	Business Case – ER Description	Exh. JMK-3 Page #
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1 GENERAL INFORMATION

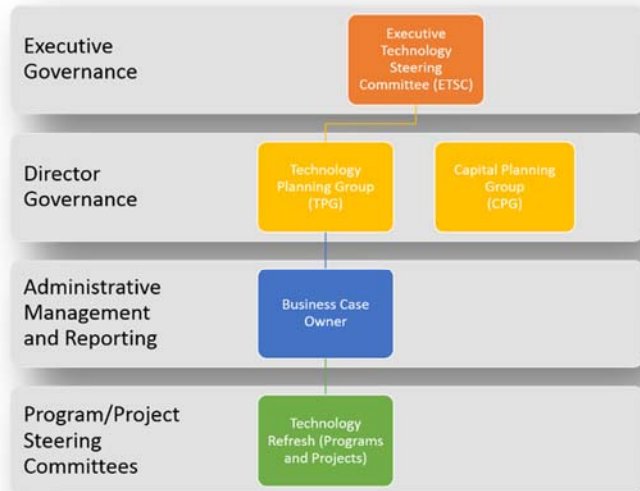
Requested Spend Amount	\$17,917,613
Requesting Organization/Department	IS/IT
Business Case Owner	Andy Leija
Business Case Sponsor	Jim Corder/Hossein Nikdel
Sponsor Organization/Department	IS/IT
Category	Program
Driver	Asset Condition

1.1 Steering Committee or Advisory Group Information

The Enterprise Technology Department serves as a shared service business unit that supports technology infrastructure and information systems for the enterprise. The **Technology Refresh to Sustain Business Processes** Business Case has three levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; and Program/Project Steering Committees. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects (i.e. software delivery, electrical engineering, accounting, energy delivery, technology, etc.)

The TPG sets priority across the technology investment portfolio, balancing: strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constraints are established, the Business Case owner will work with steering committee(s) to set project priority and sequence over a five year planning period.



Each program and project steering committee meet regularly to review the backlog of demand to that align with Avista’s strategies. They oversee scope, schedule and

budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

During an annual planning cycle (July – September), the Business Case owner surfaces the project demand for the upcoming five years to the TPG and ETSC. After review for resource capacity, strategic alignment, and risk, the investment plan is submitted to the CPG for funding consideration across all other Business Cases. The CPG then provides a revised funding allocation to each Business Case. The revised allocation then requires the TPG to review and revise the investment plan to fit within the new funding allocation. This establishes the annual investment plan under this Business Case. Steering committees prioritize technology asset risk within the two constraints (resource capacity and funding) for each year. Technology asset refresh funding is generally assigned priority in this sequence: Safety, Energy Control, Customer Facing, and Back Office.

2 BUSINESS PROBLEM

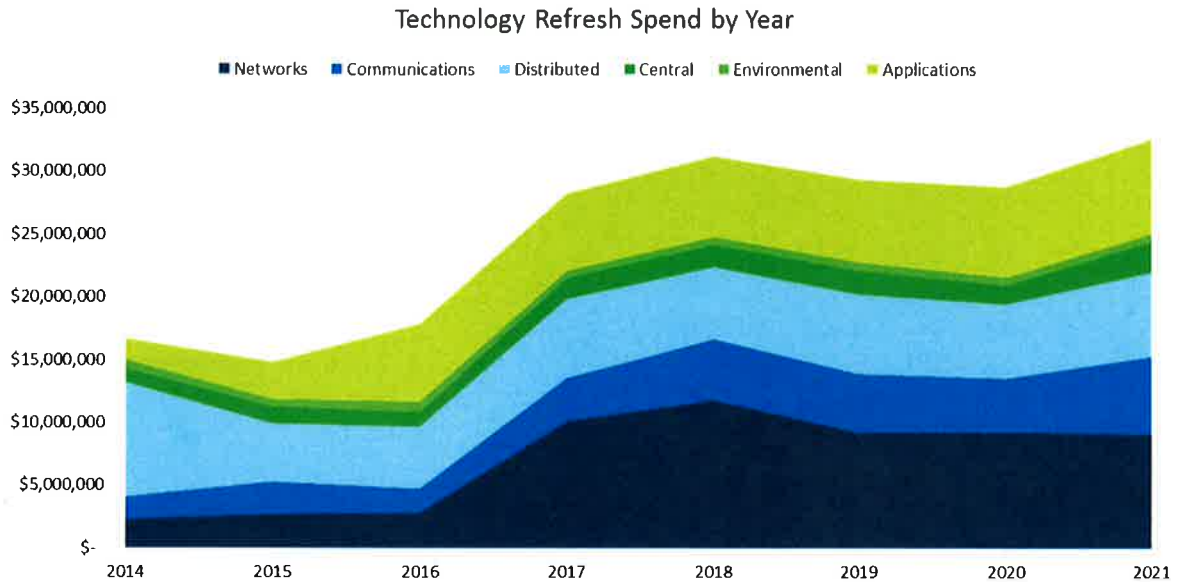
The Technology Refresh to Sustain Business Processes program is in place to provide for replacement of existing technology in alignment with the manufacturer product roadmaps for application and technology lifecycles. Not only is the asset condition of technology subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence¹. That is whereby the technology asset although within its functional lifespan is technologically flawed or no longer meets the need of users or customers, as expectations increase due to newer and more powerful technology is available in the market. Reliance on obsolete technology for automated business process presents significant risk that may only be solved with the reinstatement of manual process. Sustaining business process by replacing automation with workforce would increase labor expense.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform Avista on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

Below is a graph that illustrates the technology replacement demand across the six technology domains (Networks, Communications, Distributed, Central,

¹ Barreca, Stephen L. (1998-2000). *Technology Lifecycles and Technology Obsolescence*. Retrieved from <http://bcrl.com/products/publications.htm>

Environmental and Applications) under this Business Case. As you can see, the greatest increase is in Networks and Applications.



The Annual Investment Plan reviewed by the TPG and ETSC monitors the risks of deferred replacements or upgrades to maintain a stable and reliable application and computing platform that allows for the safe and reliable operation of our electric and natural gas infrastructures, as well as deliver on customer demands.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing (No funding)	\$1.9 MM	01 2017	12 2017
Fund at current level	Approx. \$18 MM	01 2017	12 2017
Fund at lower level	< \$18 MM	01 2017	12 2017

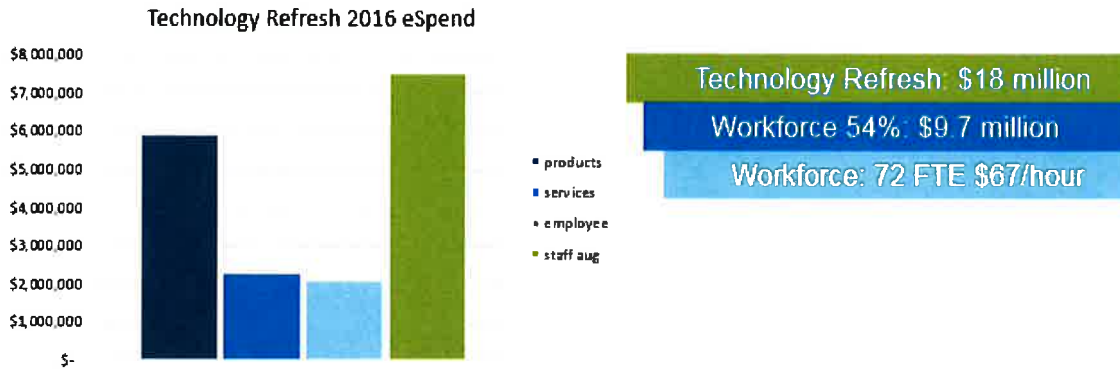
The monetized value of “no funding” alternative is \$1.9 million per year

The basis for measuring the business impact of not funding the Technology Refresh to Sustain Automated Business Process Business Case program is realizing the loss of business process automation. As technology products reach manufacturer planned or real obsolescence, they then cease product maintenance and product support, the automation value is jeopardized and business risk is increased. This condition would drive action. The “no funding” alternative would lead to a mitigation plan of having to remove the automation.

Funding at current level analysis

According to Avista’s technology asset management system of record, which stores over 10,000 assets, 25% of the in-service assets are beyond manufacturer lifecycle. The Business Case owner analyzed project demand, resource capacity, and pace

of change, and determined that the 2016 funding level is adequate to maintain a balance among the constraints (demand, capacity, funding). The results of the analysis were presented to the ETSC and TPG, with the recommendation and requested an annual analysis to validate the investment portfolio, while managing the risk of deferring technology upgrades and replacements.




Funding at a lower level

As described above, funding the Technology Refresh to Sustain Automated Business Process Business Case at a lower level would increase the number of technology assets that would need to be deferred, thereby increasing risk of technology obsolescence, losing maintenance and support, and reducing automation efficiencies. Annual investment planning efforts will inform ETSC and TPG of the risks associated with continuous deferrals.


The Business Case aligns directly with the Asset Condition driver and Avista’s strategic initiatives of providing a Safe and Reliable Infrastructure and delivering more value to more customers and strengthen engagement. As a shared service, a majority of the IS/IT Business Case supports automated business functions, which many departments depend on to manage costs and maintain staff efficiencies. Concomitantly, many of the technology solutions (devices, systems, applications, etc.) provide direct support to all Avista customers, while the remaining provide indirect benefit through operational efficiencies, field mobility, and safer conditions.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **Technology Refresh to Sustain Automated Business Process** Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 04/2017
 Print Name: Andy Leija
 Title: IT Delivery Manager
 Role: Business Case Owner

Signature:  Date: 04/2017
 Print Name: Hossein Nikdel
 Title: Application System Planning Director
 Role: Business Case Sponsor

Signature:  Date: 04/2017
 Print Name: Jim Corder
 Title: Infrastructure Technology and Security Director
 Role: Business Case Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Andy Leija	04/12/17	ET Directors	04/14/17	Initial version

Template Version: 03/07/2017

1 GENERAL INFORMATION

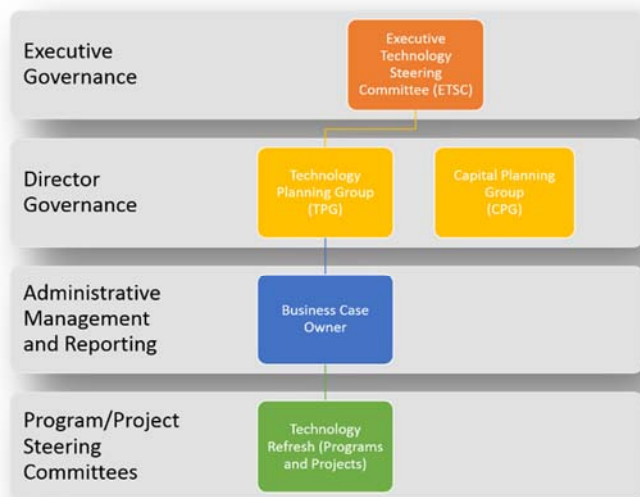
Requested Spend Amount	\$14,000,000
Requesting Organization/Department	Enterprise Technology
Business Case Owner	Andy Leija
Business Case Sponsor	Jim Corder/Hossein Nikdel
Sponsor Organization/Department	IS/IT
Category	Program
Driver	Performance & Capacity

1.1 Steering Committee or Advisory Group Information

The Enterprise Technology Department serves as a shared service business unit that supports technology infrastructure and information systems for the enterprise. The Technology Expansion to Enable Business Process Business Case has three levels of governance: The Executive Technology Steering Committee (ETSC); Technology Planning Group (TPG) of Directors; and Program/Project Steering Committees. Applicable stakeholders and disciplines meet regularly to govern the business case and subsequent programs and projects (i.e. software delivery, electrical engineering, accounting, energy delivery, technology, etc.)

The TPG sets priority across the technology investment portfolio, balancing: strategic alignment, business value, and customer benefits, as driven by the strategic initiatives established by the ETSC. The Capital Planning Group (CPG), an independent body, establishes funding allocations for each Business Case across the enterprise.

The Business Case is largely limited by the funding allocation and resource capacity (staff) to meet its goals. The funding is generally established at the Business Case level by the CPG. The resource capacity constraint is generally managed by the TPG and the Business Case owner. Once the two constraints are established, the Business Case owner will work with steering committee(s) to set project priority and sequence over a five year planning period.



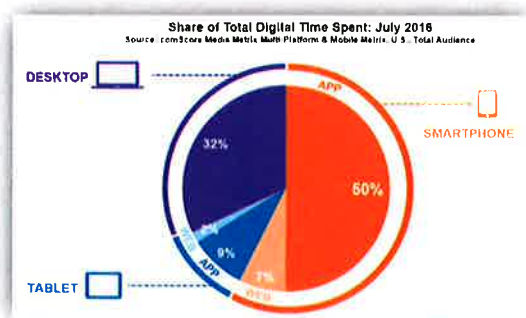
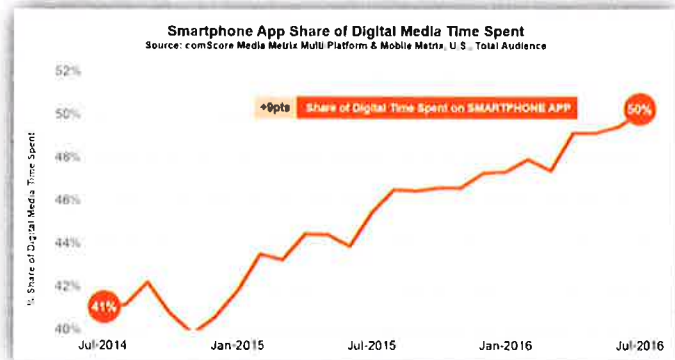
Each program and project steering committee meet regularly to review the backlog of demand to that align with Avista’s strategies. They oversee scope, schedule and budget within their respective programs and projects and inform the Business Case owner of any changes needing escalation to the TPG or CPG for decision-making around resource or funding constraints.

During an annual planning cycle (July – September), the Business Case owner surfaces the project demand for the upcoming five years to the TPG and ETSC. After review for resource capacity, strategic alignment, and risk, the investment plan is submitted to the CPG for funding consideration across all other Business Cases. The CPG then provides a revised funding allocation to each Business Case. The revised allocation then requires the TPG to review and revise the investment plan to fit within the new funding allocation. This establishes the annual investment plan under this Business Case. Steering committees prioritize technology requests within the two constraints (resource capacity and funding) for each year.

2 BUSINESS PROBLEM

The utility industry is undergoing a transformation that is driving technology demand to meet ever-changing customer needs and increase operational efficiencies. Specifically, customers’ adoption of mobile and web technology is growing at a faster pace than ever before, challenging industries who in the past were never affected.

According to a 2016 study¹, Americans are spending over 50% of their time on digital media. That is a 9% increase from 2014.



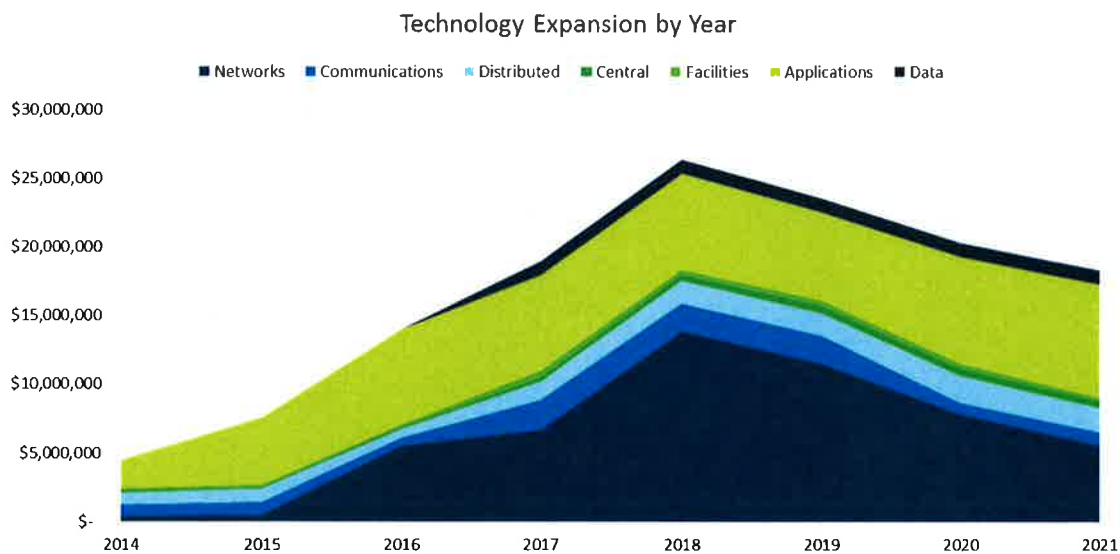
The increase in time spent on digital media is largely driven by the rapid growth in mobile penetration and consumer demand for immediacy, whereby consumers have 24/7/365 access to information, communication, and payment capabilities. In the same study, comScore found that much of consumer digital use was on their smartphone device through the use of apps. This phenomenon results in

consumer demand for swift and easy access to their utility service provider to pay

¹ The 2016 U.S. Mobile App Report. <http://www.comscore.com/Insights/Blog/Smartphone-Apps-Are-Now-50-of-All-US-Digital-Media-Time-Spent>

their bills, order new services, monitor outage maps, learn of new offerings that relate to their particular needs or lifestyles, and more. For example, environmentally conscious consumers may be interested in managing their carbon footprint beyond the choices they make at home and elect to pursue alternative energy resources, set up auto-payments, or be alerted when coming close to hitting certain therm or kilowatt hour preset thresholds.

Congruently, and as illustrated in the graph below, Avista has clearly seen an increase demand for performance and capacity in network, application and data projects, whereby new Commercial Off The Shelf (COTS) application systems that enhance or improve conventional business practices and processes to increase operational efficiencies, mobility and scalability, also require digital infrastructure capable of capturing, processing, transmitting and storing large sets of data for daily use.



Additionally, security threats are on the rise requiring additional and continuous enhancements and changes to protect utility infrastructure and customer information and their transactions. The increase in cyberattacks that result in data breaches can not only reduce customer confidence, but result in catastrophic events to operation systems that manage energy services (i.e. generation, transmission and distribution).

Consumers also expect utilities to do more with either less or the same², including staffing a digital workforce that understand the energy field while also able to respond using technology solutions that are common to consumers in their daily lives. This resource constraint is compounded by the fact that more than half of the utility workforce is eligible to retire in the next 4-6 years,³ which presents a need for

² 2016-17 WA UTC staff rate case rejection; 2016-17 Oregon Public Utility

³ <http://www.elp.com/articles/2015/04/solving-the-aging-workforce-dilemma-in-today-s-utility-industry.html>

a flexible workforce that can be both knowledgeable and responsive.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing	\$0		
Alternative #1: Reduce Funding	\$7 MM	01 2017	12 2017
Recommended Solution	\$14 MM	01 2017	12 2017

Do Nothing

This customer expected magic is only achieved through capital investment in digital ‘smart’ infrastructure, data responsive integrated systems, varied customer communication channels, and continuous operational efficiencies. Thus, doing nothing is not an option. The risks associated with not funding this Business Case will result in stifling customer demands, any operational efficiencies, and result in maintaining manual processes and practices that can result in longer wait times at a minimum and at worse, the inability to respond to certain requests at all.

Alternative #1

The alternative, which is to fund this business case at less than the requested amount, would result in degrading Avista’s infrastructure to a point that the level of risk is no longer acceptable and that strategic objectives will be negatively impacted.


Recommended Solution

The Technology Expansion to Enable Business Processes program is in place to automate business processes, add functionality and enhancements to existing tools or systems, and fund additional software licenses of existing COTS systems. The recommended solution addresses many type of technology investment projects across offices, substations, plants, meters, and datacenters. Infrastructure investment examples include hardware, software, fiber optic products, services for inside and outside construction, while application enhancements further operational efficiencies by leveraging COTS solutions, increase security controls, and improve Avista’s responsiveness.


As stated above in the Steering Committee section, this business case is an annual program that has various levels of cross-functional governance and manages transfers to plant forecasts at the project level. It aligns with Avista’s Vision of delivering reliable energy service and the choices that matter most to our customers, and the Safe and Reliable Infrastructure strategy. Depending on the projects approved for funding during a given year, stakeholders and customers vary.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **Technology Expansion to Enable Business Process** Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 4-18-2017
 Print Name: Andy Leija
 Title: IT Delivery Manager
 Role: Business Case Owner

Signature:  Date: 4-18-2017
 Print Name: Hossein Nikdel
 Title: Application System Planning Director
 Role: Business Case Sponsor

Signature:  Date: APRIL 2017
 Print Name: Jim Corder
 Title: Infrastructure Technology and Security Director
 Role: Business Case Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Andy Leija	04/12/17	ET Directors	04/14/17	Initial version

Template Version: 03/07/2017

1 GENERAL INFORMATION

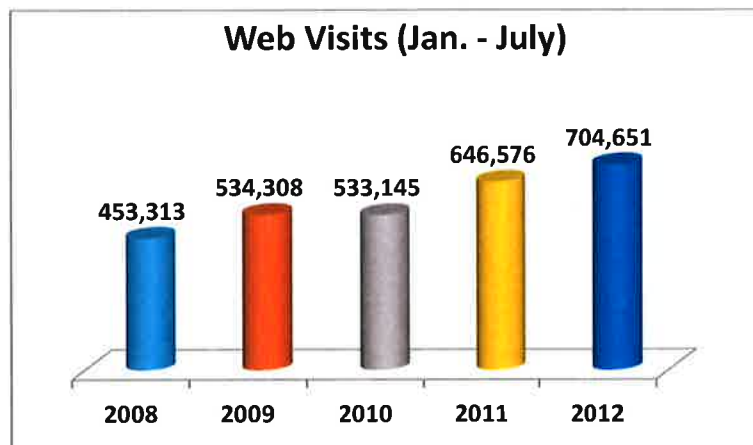
Requested Spend Amount	\$ 12,604,683
Requesting Organization/Department	Enterprise Technology
Business Case Owner	Dana Anderson
Business Case Sponsor	Kevin Christie and Jim Kensok
Sponsor Organization/Department	Customer Solutions
Category	Project
Driver	Customer Service Quality & Reliability

1.1 Steering Committee or Advisory Group Information

This project is governed by a project level steering committee as set forth in the project charter. The steering committee is composed of representation from the key business and technical areas. In this case it was composed of representation from Customer Services, Treasury, Finance, Digital Communications and IS/IT. The steering committee is scheduled to meet on a monthly basis and is charged with approving changes and adjustments to scope, schedule and budget.

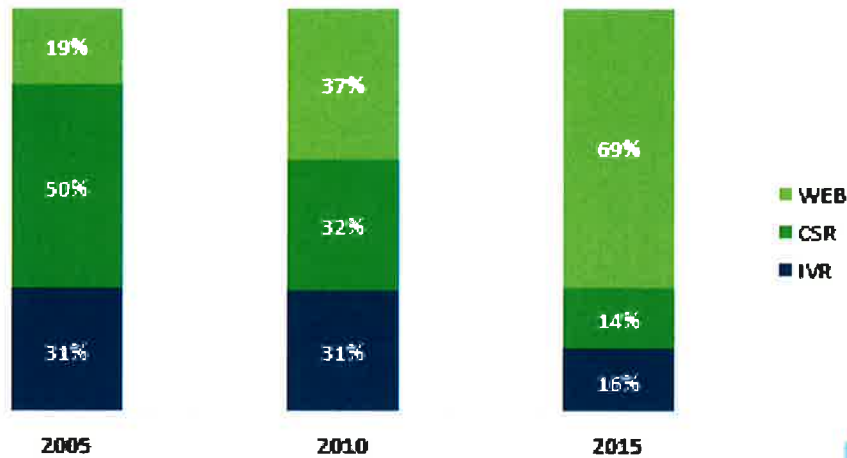
2 BUSINESS PROBLEM

Interest in interacting with Avista via the web continues to increase. In fact, **since 2002, our web usage has increased 282%**. To capture this growing market, and to drive costs out of the business by providing more self-service functionality, AvistaUtilities.com was launched in January 2008 on the new SharePoint website platform. This launch provided customers with increased self-service transaction functionality, as well as enhanced content management functionality. Since its launch, mobile services have been added and the site usage continues to grow. Since 2008 alone, we've seen **an increase in web usage by more than 55%**. To date, we conservatively process more than **\$250,000 per day in transactions through the web** and an average of 68% of all customer contacts are made through electronic channels—with 42% belonging to the web and 26% belonging to the Enterprise Voice Portal (EVP). We've experienced a **12% increase in web transactions over 2011 alone**. All this tells us what we already know—the web is a critical and increasingly important channel for our customers who are interested in self-service.

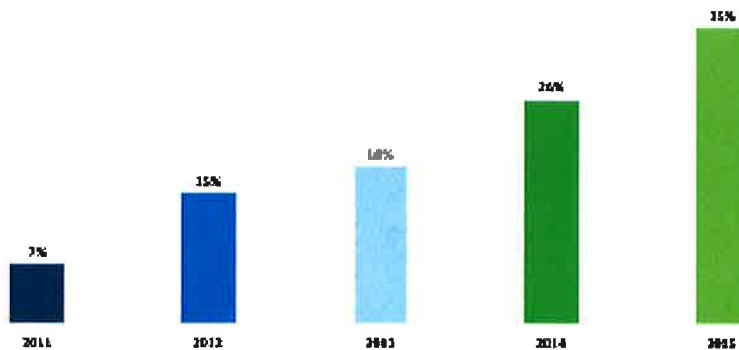


UPDATE 2017: The web is now the single largest channel of customer engagement for the company, and the technology platform it sits on has outlived its useful life, now nearing 10 years in production. Not only has web traffic and demand for self-service continued to increase, but web satisfaction and ability to complete transactions has declined. See data below:

Customer Contacts by Channel



Mobile Use %





While we've continued to make improvements to our website since our launch in 2008, we now find ourselves with outdated functionality and usability that's far from perfect. Currently, while our website still ranks well among industry standards and with our own metrics such as Forsee and Net Insights. With the emergence of the iPhone and other mobile application technologies, customers are looking for easier and faster ways to self-serve. Currently, according to Forsee data, **14% of our customers are not successful** in completing online transactions via the web, and must alternately pick up the phone to make contact with a customer service rep, thus driving up our cost of service. Estimated data shows that if we could help just one out of four of these customers self-serve, we could potentially **cut 24,000 calls per year and save nearly \$100,000 per year.**

Annual Impact	Est. Calls Avoided	Est. Savings in Avoided Call Center Labor
Could not find online payment option	5,000	\$19,000
Could not find what they needed	3,000	\$13,000
Process was too confusing/Unable to complete	16,000	\$65,000
Total	24,000	\$97,000

UPDATE 2017: According to Foresee results, now 19% of customers are unable to complete transactions on average, creating an even higher opportunity to drive costs out of the business while more effectively serving our customers.

ALTERNATIVES CONSIDERED

When the project team originally evaluated the web redesign project, they did so knowing that the technology platform would need to be enhanced, updated, or replaced given how long it had been in production and the updates to systems connecting to the site, as well as the platform itself.

An alternative would have been to not invest in a more robust platform, site, and self-service functionality. This option would have likely resulted in maintenance costs for staff, as well as a less than ideal customer experience (see declining satisfaction above).

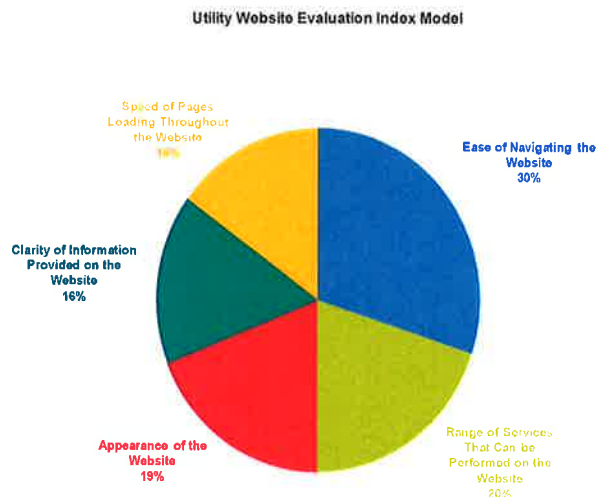
Given industry trends for customer expectations and self-service, the company concluded that it was in the best interest of our customers to invest in a platform, and subsequent services, that could provide a more secure, user-friendly, and mobile capable website.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing	\$0		
Complete refresh of the website	\$12.6M	01 2013	06 2017
Same as "do nothing"			

In 2011, the multi-stakeholder AU.com management team determined there were four primary areas of focus for updating the site: improving navigation, updating the look and feel of the overall site, creating a new homepage layout, and improving self-service and search functionality.

These categories were developed based on multiple sources of data from Net Insights, E-Source, JD Power, Sixth Man Marketing, Acquity and Forsee. Because our site was originally developed in 2006-2007 and launched in 2008, standards and best practices have greatly involved. Understanding that **five years in the web world is an eternity**, standards such as **text heavy pages** are no longer considered acceptable by customers. With the emergence of app driven devices like the iPhone, customers are looking for quicker ways to get the information they need. Indeed, **80% of web traffic is focused on transactions**, yet billing and payment options remains one of our top searched items. In addition, while our navigation/information architecture remains product focused, more and more sites are moving toward customer focused layouts. According to JD Power, **30% of a customer's satisfaction is driven by the ease of navigating the site**, with another 20% driven by the range of services that can be performed.



The goals for the refreshed AvistaUtilities.com website are:

Update for 2017: The proposed timeframe for delivering on the objectives below was originally three years, however due to changing business priorities and significant changes in the public facing website technology providers, the final objective will not be delivered until 2017.

Navigation	<ul style="list-style-type: none">• Revise information architecture• Improve usability
Home Page	<ul style="list-style-type: none">• Update with new visual identity, voice/tone in copy• Redesign home page
Look and Feel	<ul style="list-style-type: none">• Update with new visual identity• Redesign secondary and tertiary pages, including My Account
Search & Self-Service	<ul style="list-style-type: none">• Proactively manage search functionality• Evaluate 3rd party products to increase self-service functionality.

Update for 2017:

Objective:

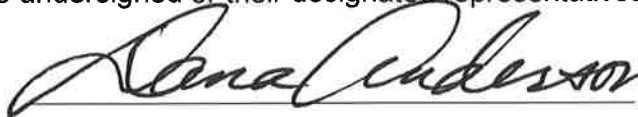
To improve the overall customer experience, more effectively connect to customers via their preferred communication channels, increase customer self-service, and reduce calls to customer service representatives. To provide a platform of innovation for Avista's customer focused initiatives.

Phoenix is a multi-phased program that includes:

- Complete web replacement
- Migration of our website address from avistautilities.com to myavista.com
- Improved search capabilities and analytic packages
- Enhanced outage map
- Creation of text and native mobile app channels
- Improved payment processing integrated with new channels
- An ecommerce engine
- Ongoing digital enhancements

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **AvistaUtilities.com (Au.com) Revised Business Case** and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 4-19-17

Print Name: Dana Anderson

Title: Director, Corporate Communications

Role: Business Case Owner

Signature:  Date: 4/19/17

Print Name: Kevin Christie

Title: VP Customer Solutions

Role: Business Case Co-Sponsor

Signature:  Date: 4-19-17

Print Name: Jim Kensok

Title: VP Chief Information & Security Officer

Role: Business Case Co-Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Kelly Conley	4/18/17	Dana Anderson	4/18/20147	Initial version

Template Version: 03/07/2017

Index for Business Case Justification Narratives Related to 2019 Pro Forma Major Technology Capital Additions			
Project #	ER #	Business Case – ER Description	Exh. JMK-3 Page #
4	5016	Endpoint Compute and Productivity Systems	19
5	5020	Enterprise & Control Network Infrastructure	23
6	5151	Customer Facing Technology	28

1 GENERAL INFORMATION

Requested Spend Amount	\$40,335,137
Requesting Organization/Department	Enterprise Technology
Business Case Owner	Walter Roys
Business Case Sponsor	Jim Corder
Sponsor Organization/Department	Enterprise Technology
Category	Program
Driver	Asset Condition

1.1 Steering Committee or Advisory Group Information

The Endpoint Compute and Productivity Systems steering committee members include Jim Corder, Walter Roys, and Matt Reding.

This Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

The Program Steering Committee consist of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular monthly meetings to review the progress of the program and make decisions on the following topics:

- Project Prioritization
- Any Funding Change Requests presented to the Capital Planning Group
- When to initiate new projects

The Program will be facilitated and administrated by the assigned Program Manager within the ET PMO Department.

The Project Steering Committee will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risk

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project. The Project steering committee will be facilitated by the assigned Project Manager within the ET PMO Department.

2 BUSINESS PROBLEM

The major driver of this business case is asset condition driving investments to replace assets based on industry and vendor accepted asset management principles and strategies. This investment in assets in turn positively affects reliability and performance.

The Endpoint Compute and Productivity Systems program is in place to provide for replacement of existing technology in alignment with the manufacturer product roadmaps for technology lifecycles. Not only is the asset condition of technology subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence¹. That is whereby the technology asset although within its functional lifespan is technologically flawed or no longer meets the need of users or customers, as expectations increase due to newer and more powerful technology that is available in the market. Reliance on obsolete technology for automated business process presents significant risk that may only be solved with the reinstatement of manual process. Sustaining business process by replacing automation with workforce would increase labor expense and reduce efficiency.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can in turn drive subsequent system replacements, creating a cascading event of change. Therefore, vendor roadmaps and technology asset lifecycles are data points that inform Avista on how best to plan replacements, while meeting business value and strategic alignment, within the constraints of resource capacity and funding, which in turn can result in deferred replacement introducing the risk of technology failure.

- Endpoint Compute and Productivity Systems includes the following hardware: Personal Computers (Laptops, Ruggedized Laptops, Desktops, Virtual Desktop Clients) and virtualized app deployment, Tablets, Printing, Scanning, Monitors, Touch, Global Positioning Systems, Cellular modems, Scales, Uninterruptable Power Supplies, and Peripherals used in all areas of the company from corporate office users, Customer Service, overseas application development, remote office, and mobile field workers. Maintaining

¹ Barreca, Stephen L. (1998-2000). *Technology Lifecycles and Technology Obsolescence*. Retrieved from <http://bcrl.com/products/publications.htm>

these assets insures access to all corporate applications required for the safe and reliable delivery of energy to our customers.

- Additionally software and centralized management tools are necessary for these systems. Microsoft Windows personal computer operating system, Microsoft Office Suite (Word, Excel, PowerPoint), Remote Management, Citrix Virtualization Infrastructure (XenDesktop/XenApp), Configuration Management for software delivery and packaging, Virtual Private Networking, Battery and Thin/Zero Client Management, & Printer Maintenance and management software are funded in this business case.
- Devices in this business case are the interface for employees and contractors to access the systems and information required to perform their jobs in a safe, reliable, and efficient manner.
- Laptops are refreshed on a 3 year cycle. Desktops 4 years. Rugged Laptops 5 years. Software and operating systems have been refreshed on a 3 year cycle, but software vendors have recently implemented processes to update software as frequent as every 6 months, in addition to monthly security patches and bug fixes.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing	\$0		
Recommended Solution	\$40,335,137	01/2019	12/2023

- The “Do nothing” option increases risk by leaving in production endpoint hardware and software that is out of support and exposed to security vulnerabilities. Reliability and availability of these systems decrease with age and when past the documented EOL (End of Life) repairs, spare parts, and software updates are no longer available. Risks include decreased efficiency of staff and possible exposure of information through security vulnerabilities.
- Customers and stakeholders of this business case include almost all functions of the company. Endpoint devices are used to access information and systems in all areas of the company including crew dispatch and outage reporting, System Operations, Customer Service reps access customer information systems, office workers processing Accounts Payable, General Ledger, Payroll, etc.
- This is a Program that refreshes Endpoint Compute and Productivity Systems based on asset condition and vendor prescribed life cycle. Transfer to Plant will be quarterly.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Endpoint Compute and Productivity Systems business case and agree with the approach it presents. Significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 7/13/2018
 Print Name: Walter Roys
 Title: System Engineering Manager
 Role: Business Case Owner

Signature:  Date: 13 July 18
 Print Name: Jim Corder
 Title: Director Infrastructure Technology and Security
 Role: Business Case Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Walter Roys	06/30/2017	Walter Roys	06/30/2017	Initial version
2.0	Walter Roys	07/13/2018	Walter Roys	07/13/2018	Annual Update

Template Version: 03/07/2017

Enterprise and Control Network Systems

1 GENERAL INFORMATION

Requested Spend Amount	\$43,086,201
Requesting Organization/Department	Enterprise Technology
Business Case Owner	Jim Ogle
Business Case Sponsor	Jim Corder
Sponsor Organization/Department	Infrastructure Technology
Category	Program
Driver	Performance & Capacity

1.1 Steering Committee or Advisory Group Information

The **Enterprise and Control Network System** Business Case has two levels of governance; The Program Steering Committee and the Project Steering Committee.

Program Steering Committee

This business case is a program of related projects. The Program Steering Committee consists of members in management positions that are identified and responsible for prioritizing the projects within this program. The Steering Committee is also held accountable for the financial performance of this program. The Program Steering Committee will have regular meetings to review the progress of the program and to make decisions on the following topics:

- Project prioritization and risk
- Approving business case funding requests
- New project initiation and sequencing

The Program will be facilitated and administrated by an assigned Program Manager within the Enterprise Technology (ET) Project Management Office (PMO) Department. The project queue will be reviewed periodically and will consist of projects needed to maintain the reliability and performance of all enterprise and control network systems.

Technology product roadmaps identify investment demand that is generally not fully funded. Technology product investments are prioritized in this manner:

- 1) Safety Systems
- 2) Control Systems
- 3) Customer Facing Systems
- 4) Back Office Systems

Project Steering Committee

Project Steering Committees act as the governing body over each individual project within the program and will consist of key members in management positions that are identified as responsible for the successful completion of the scope of work identified in the Charter document for the Project. The Project Steering Committee is responsible to provide guidance and make decisions on key issues that affect the following topics:

- Scope
- Schedule
- Budget
- Project Issues
- Project Risks

The Project Steering Committee will meet at the defined intervals documented in the Charter of the project, and will be facilitated by an assigned Project Manager from within the ET PMO Department.

2 BUSINESS PROBLEM

The Enterprise and Control Network systems business case will represent projects that are driven by performance and capacity related issues on the following technologies:

- Network Switching
- Network Routing
- Network Load balancing
- Network Optimization
- Network communication links
- Time Delay Multiplexed (TDM) systems
- Virtual Private Network (VPN) systems
- Microwave and other telecommunication systems
- Global Positioning Systems (GPS) Time Synchronization
- Network media converters
- Applications used to monitor and manage systems

The enterprise and control network technology systems provide the data communication foundation for basically all automated business processes.

- This program will manage technology replacement according to manufacturer product roadmaps with an objective to maintain infrastructure performance and align infrastructure assets with business demand for capacity. Technology is not only subject to the traditional mortality rate or lifecycle, but it is compounded by planned obsolescence, also known as technology obsolescence¹. Technology obsolescence

¹ Barreca, Stephen L. (1998-2000). *Technology Lifecycles and Technology Obsolescence*. Retrieved from <http://bcrl.com/products/publications.htm>

Enterprise and Control Network Systems

is defined as when the technology asset, although within its functional lifespan, is technologically flawed or no longer meets the need of users or customers. Reliance on obsolete technology for automated business process presents significant risk that may only be solved with the reinstatement of manual process. Sustaining business process by replacing automation with workforce would increase labor expense.

Additionally, with the rapid pace of technological change, technology vendors require continuous upgrades to maintain system maintenance and support, which can include security patching, bug fixes, version upgrades, interoperability, and compatibility with other technologies. These upgrades can drive subsequent system replacements, creating a cascading event of change. Vendor product roadmaps and technology asset lifecycles are data points that inform Avista on how best to plan replacements while meeting business value and strategic alignment. All of this work is done within the constraints of resource capacity and funding.

A product obsolescence working group, consisting of Technology Domain Architects, maintains technology roadmaps to inform Program Steering Committee members of project demand. Project demand is assessed against funding constraints each year and prioritized based on risk of technology impact to the business.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Retire asset and remove automation	\$4,309,620	01/2019	12/2023
Address 100% obsolete products and capacity constraints (recommended)	\$43,096,201	01/2019	12/2023
Address 80% obsolete products and capacity constraints	\$34,476,961	01/2019	12/2023
Address 60% obsolete products and capacity constraints	\$25,857,721	01/2019	12/2023

Retire asset and remove automation

This option assume the assets would not be replaced upon end of life and be removed from service due to product incompatibility, business risk or safety risk.

The basis for measuring the business impact of not funding the Enterprise and Control Network Systems Business Case is realizing the loss of business process automation. As products reach the manufacturer-defined planned obsolescence, business process automation is jeopardized and business risk is increased as manufacturers cease product maintenance and support. This condition would drive action. The alternative could lead to a mitigation plan of having to re-instate manual business process or eliminate the business process

This option bears the cost of asset retirement for failed assets. The retirement cost is estimated at 10% of the cost to replace the asset.

Address 100% of obsolete products and capacity constraints (recommended)

This is the optimal solution. This option fully addresses and minimizes the likelihood of technology impact to automated business process.

Address 80% of obsolete products and capacity constraints


This will introduce risk associated with technology systems reliability, interoperability and capacity. Some network services that support our energy control systems would need to operate beyond their planned lifecycle. To minimize the impact of this risk, the Program Steering Committee will manage project sequence according to the investment priority documented in section 1.1.


Address 60% of obsolete products and capacity constraints

This will introduce risk associated with technology systems reliability, interoperability and capacity. The investment required to address obsolete technology products is deferred to subsequent years. The likelihood of technology impact to business is increased. Interoperability constraints may force unplanned funding requests. Multi-year, complex projects are at risk of completion prior to product obsolescence. This option impacts the workforce.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **Enterprise and Control Network Systems** Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 13-JUL-2018
Print Name: Jim Ogle
Title: Network Engineering Manager
Role: Business Case Owner

Signature:  Date: 13 July 18
Print Name: Jim Corder
Title: Director IT and Security
Role: Business Case Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Jim Ogle	7/10/2018	Jim Corder		Initial version

Template Version: 03/07/2017

1 GENERAL INFORMATION

Requested Spend Amount	\$48,450,00
Requesting Organization/Department	Customer Solutions
Business Case Owner	Stephanie Myers
Business Case Co-Sponsor	Mike Broemeling
Business Case Co-Sponsor	Hossein Nikdel
Business Sponsor	Kevin Christie
Sponsor Organization/Department	Customer Solutions
Category	Program
Driver	Customer Service Quality & Reliability

1.1 Steering Committee or Advisory Group Information

This program is administered by the Customer Solutions management team that is facilitated by the Senior Product Manager. The team prioritizes the projects under this programs scope and surfaces those to the IS/IT PMO for execution.

2 BUSINESS PROBLEM

Customer expectations continue to rise. Gone are the days when a driving up to a drop box for payments is acceptable. Additionally, customers continue to expect more value for their energy and are interested in a variety of offerings that can simplify their interactions with Avista and give them more information about and control over their energy use. This, combined with the expansive growth of technology, creates an expectation that information is easy to find, payments are easy to make, communications are proactive, timely, and personal, and tools that provide these opportunities are part of the overall energy package.

In an effort to keep pace with customer demands and quickly evolving technologies, Avista intends to expand on the foundational technologies established during previous business cases, and offer more channels of choice including self-service options that meet customer needs and help reduce overall business cost. A primary example of a project funded under the Customer Facing Technology Program business case is the expansion of our Outage Mobile Application to include payments, text messaging around payments and billing, and "pay by text" functionality. Expanding our mobile options will decrease call center volumes, resulting in reduced hold times and enhanced customer satisfaction. It will also increase adoption of electronic billing and payment transactions, which lead to lower processing costs. Efforts that are focused around putting tools at a customer's fingertips, supports the worldwide trend of consumer preferences for mobile devices.

In addition, customers are interested in new products and services such as online services/job request tracking, appointment scheduling, appointment notifications, mobile energy management in the home (such as smart home offerings), and expansion of mobile applications and customer notification options.

Customer Facing Technology Program

Exh. JMK-3

Customers are beginning to face a time where there are increased energy related choices such as solar, storage, electric vehicles (and the associated charging options), and energy efficient equipment. In this array of increasing choice, customers are looking to Avista to offer guidance and advice as they make these energy decisions. Avista has responded to this need with tools such as our HVAC dealer network, Furnace Filter program, Solar Estimator, and our soon to be launched Home Energy Marketplace. These programs are a start, but many other future opportunities will arise that will help us to best advise our customers. In the short term, this could include Smart Home and/or Load Disaggregation.

As customer expectations have changed, companies are expected to deliver fast, easy, personalized, and intuitive self-service. According to Forrester Research, 77% of U.S. consumers say "valuing my time" is the most important component of their online customer service experience. They are looking for more than correct answers or quick response times. They want a 'consistent' experience from their first interaction to the resolution of their issue. Today's customer compares Avista to all brands with which they interact. Accenture refers to this phenomenon as "liquid expectations." For example, even if Apple's products don't compete with yours, customers are comparing your website to Apple.com. New customers reach adulthood every year and the expectations for self-service and digital engagement will continue to increase. Funding the Customer Facing Technology Program ensures that Avista can continue focusing on delivering value to our customers and making it easier for them to interact with us.

The major metrics for this program are customer satisfaction scores, web satisfaction scores, channel growth, and transaction success rates.

The undersigned acknowledge they have reviewed the funds change request and agree with the approach it presents, and that it has been approved by the relevant governance group. Signatures are required before funding can be considered.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete
Do nothing	\$0		
Recommended solution	\$48,450,000	01 2019	12 2023
Funding at a lower level	\$8,000,000	12 2022	12 2023

Do nothing

We will be unable to meet our customer expectations as outlined above and will experience decreased customer service and satisfaction. This will also greatly impact our ability to manage and reduce costs.

Recommended solution

The recommended and requested solution will allow us to keep pace with customer demands and these quickly evolving technologies. We will be able to expand on the foundational technologies, offer more channels of choice, including self-service options that meet customer needs and help reduce overall business cost. As a result, this will allow Avista to provide a valuable and consistent customer *experience every time*.


Funding at a lower level

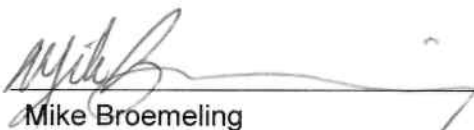
This alternative will delay the benefits to our customers which may generate dissatisfaction as well as prevent us from maximizing the benefits of previously funded core systems, such as the mobile application or the myavista.com website. Avista's web channel is experiencing increasing usage year over year but has a declining rate of customer satisfaction as a result of not investing in modernizing the channel.

Rising customer service expectations including digital requirements are not going away. In fact, customers will only demand more and more from any company they do business with. Avista's plans are to meet our customer's expectations and deliver the tools that will enable them to effectively manage and understand their energy use. By not moving forward with these investments, customer satisfaction will decline.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the **Customer Facing Technology Program** Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:  Date: 7/12/2018
Print Name: Stephanie Myers
Title: Manager, Customer Solution
Role: Business Case Owner

Signature:  Date: 7/12/18
Print Name: Mike Broemeling
Title: Director, Customer and Shared Services
Role: Business Case Co-Sponsor

Signature:  Date: 7/12/2018
Print Name: Hossein Nikdel
Title: Director, Applications and System Planning
Role: Business Case Co-Sponsor

Date: _____

Customer Facing Technology Program

Exh. JMK-3

Signature: 
Print Name: Kevin Christie
Title: VP External Affairs and Chief Customer Officer
Role: Business Sponsor

7/12/2018

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Kelly Conley	4/11/17	Dana Anderson	4/17/2017	Initial version
1.1	Graham Smith/Leianne Raymond	7/11/17			Updated Business Case format
1.2	Kelly Conley	7/24/17	Dana Anderson	7/24/2017	Updated business case totals and signature area
2.0	Graham Smith	7/11/2018			Owner change and 2019 5 year cost update